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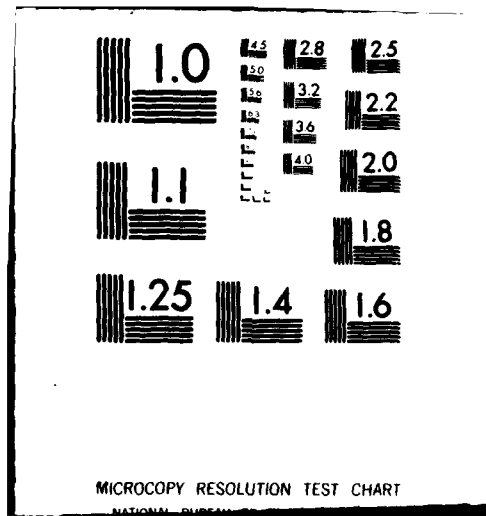   JAN 81 C H CHEN   N00014-79-C-0494
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A BIBLIOGRAPHY ON MAXIMUM ENTROPY SPECTRAL ANALYSIS AND RELATED TECHNIQUES*

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by
C. H. Chen

Department of Electrical Engineering
Southeastern Massachusetts University
North Dartmouth, Massachusetts 02747

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A BIBLIOGRAPHY ON MAXIMUM ENTROPY SPECTRAL ANALYSIS AND RELATED TECHNIQUES

I. Introduction

Recently there has been strong research interest on high resolution spectral analysis techniques. This is an important area of defense research because of the numerous applications to radar, sonar, and geophysical areas of defense interest. An excellent publication is the Proceedings of the 1978 and 1979 RADC Spectrum Estimation Workshop. Maximum entropy spectral analysis is one of a number of high resolution spectral analysis techniques. The impact of the Burg's maximum entropy spectral analysis method is far more significant than the technique itself. Thus in this report we present not only the bibliography of the maximum entropy methods in one and two spatial dimensions but also a number of related methods of high resolution spectral analysis. One common assumption with all these methods is that the data record is short and thus the conventional fast Fouriter transform method of spectral analysis is not suitable. Probably because of the short length record, the maximum entropy spectral computation is fairly sensitive to the presence of noise. In the following sections, references are arranged in the first author's alphabetical order. Each reference is listed only once in the report. Effort has been made to provide as complete list of references as possible.

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20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*
An extensive bibliography is provided for univariate and multivariate (multichannel) maximum entropy spectral analysis, two-dimensional maximum entropy spectral analysis, and related high-resolution spectral analysis techniques.

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